

REMARKS

The present application is a division of Serial No. 09/533,018. It is respectfully requested the Examiner consider the present application. Claims 1, 12, 14 and 16 are amended. Claims 4-11, 13, and 17-20 are canceled. Claims 1-3, 12, and 14-16 remain in the application.

In Office Actions related to the parent case, the Examiner highlighted the storage of the offsets claimed in the present invention. The Applicant would like to point out that the present invention is that *constant* offsets are applied to the tap coefficient updates. The effect of applying *constant* offsets changes the algorithm from being a zero forcing equalizer to a non-zero forcing equalizer.

A traditional zero forcing equalizer (ZFE) adapts to zero out the intersymbol interference. The present invention adds constant offsets, modifying the algorithm such that it adapts to a predetermined set of intersymbol interference.

See page 7 of the specification, that describes the difference between the calculation of the offsets in the prior art and the calculation of the constant offsets according to the present invention. In particular the offsets m_n of the present invention cause the tap weights to converge to a different value than that associated with zero intersymbol interference at the feedback point. Instead, the weights converge when $\langle \epsilon f_n \rangle$ equals m_n . Thus, the implementation of the ZFE algorithm according to the present invention is different than the traditional approach to ZFE in that a *constant* additive adjustment is made to every update of every tap weight value in the transversal filter. This offset changes the minimization criteria of the algorithm from zero intersymbol interference to a predetermined amount of intersymbol

interference, as claimed in claims 1, 12 and 14 that claim storing one or more *constant and predetermined* tap weight update offset values and combining each of the tap weight updates with one of the *constant and predetermined* tap weight update offset values.

An advantage of the present invention is realized in the situation where the circuit has known distortions after the equalizer and not within the feedback loop of the algorithm. Adapting the constant and predetermined tap weight update offsets according to the present invention will prepare the signal for passage through the rest of the circuit, such that at the final output, it will have zero intersymbol interference. The prior art does not provide this advantage. The offsets applied in the prior art are purely intended to prevent divergence due to tap imperfections, such as leakage. Therefore, the offsets must be adjusted for the tap coefficient value and sign. They cannot be constant and predetermined. The adaptation of the prior art algorithm still maintains the goal of producing zero intersymbol interference.

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Should the Examiner have any questions or comments that may place the claims in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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